

Claims

1. A method of preparation of a cross-linked hydrogel by graft copolymerisation, said method comprises the steps of preparing an aqueous solution comprising one or more hydrophilic polymers, a cross-linking agent and a photoinitiator
5 comprising a water-soluble peroxydisulphate, subjecting said solution to irradiation and obtaining the cross-linked hydrogel, wherein the hydrophilic polymers are saturated and the cross-linking agent acts as a co-catalyst of cross-linking.
- 10 2. A method according to claim 1 wherein the peroxidisulphate is sodium, potassium or ammonium peroxydisulphate.
3. A method according to claim 1 or 2 characterised in that the solution comprises one or more co-initiators in the form of multivalent transition metal ions.
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4. A method according to any of claims 1-3 characterised in that the hydrophilic polymer comprises is chosen from the group of cellulose derivatives, polysaccharides, polyvinyl pyrrolidone, polyvinyl alcohol, polyacrylic acid, poly (methyl vinyl ether/ maleic anhydride), poly (meth)acrylic acid, polyethyleneglycols
20 (PEG), polyamides, polyacrylic amides, polyethylene glycol (PEG) or copolymers or blends of these.
5. A method according to any of claims 1-4 characterised in that the saturated hydrophilic polymer comprises polyvinyl-pyrrolidone (PVP) or PVP based
25 copolymers.
6. A method according to any of claims 1-5 characterised in that the cross-linking agent comprises vinylic or unsaturated macromers or monomers such as mono-/di- or multifunctional acrylates or methacrylates.
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7. A method according to claim 1-6 characterised in that the solution comprises one or more plasticizers.

8. A method according to any of claims 1-7 wherein said the cross-linked hydrogel is in the form of a sheet.
- 5 9. A composition for preparation of a cross-linked hydrogel by photopolymerisation, said composition comprises an aqueous solution comprising one or more hydrophilic polymers, a cross-linking agent and a photoinitiator comprising a peroxydisulphate, wherein the hydrophilic polymers are saturated.
- 10 10. A cross-linked hydrogel prepared by the method according to any of claims 1-8.
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